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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

November 21, 1991

Mr. Wendell Owen
Co-Op Mining Company
P.O. Box 1245
Huntington, Utah 84528

Dear Mr. Owen:

Re: Soils Information Required, Bear Canyon Mine, Co-Op Mining Company, Bear Canyon Mine, ACT/015/025, Folder #2, Emery County, Utah

Enclosed please find a memo that addresses several soils issues for the Bear Canyon Mine. Please address these issues in a complete and adequate manner by December 30, 1991 as these were given to Mr. Kim Mangum informally on September 27, 1991.

If you have any questions, please call me.

Sincerely,

Pamela Grubaugh-Littig
Permit Supervisor

PGL/jbe
Enclosure
cc: Henry Sauer
Hugh Klein
Kim Mangum

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August 6, 1991

TO: Pamela Grubaugh-Littig, Permit Supervisor

FROM: Henry Sauer, Senior Reclamation Soils Specialist

RE: Division Order and Subsequent Technical Deficiency, Co-Op Mining Company, Bear Canyon Mine, ACT/015/025, Folder #2, Emery County, Utah

Synopsis

Division Order items #4-7, 9, & 13 have been adequately addressed. Item #8 regarding the identification, characterization and demonstration of adequate quantities of suitable substitute topsoil material for achieving the revegetation standards of R614-301-356 have not been fully addressed. However, specific plans can not be formulated until laboratory results from recent soil sampling is received. Regardless, comments regarding item #8 are forthcoming in the following Technical Deficiency review.

R614-300-133.700

Coal fine deposition, which is evident around the perimeter of the disturbed area, may effect vegetation by increasing the surface soil temperature. Increased temperature could increase seed mortality, decrease tillering, and create moisture stress. Additionally, coal fines are just that fine textured (silt and clay fraction) particles which have a high potential to remobilize by the kinetic forces of wind and saltation processes or the kinetic forces of raindrop impact and eventual overland flow entrainment. Therefore, it is the applicant's responsibility to monitor and demonstrate the effects of coal fines on vegetation and water quality and formulate procedures and techniques to mitigate the environmental impacts. Additionally, the 50 percent (i.e., surface area covered by coal) factor is nebulous and must be substantiated by legitimate statistical analysis (i.e., field site trials and/or test plots, permanent line transects, repeatable accurate cover estimates).

R614-301-140 Maps and Plans

The contour configuration, located on Plate 8-5B, northwest of the Scale House, depict the Bear Creek channel. As indicated on the surface facilities map and within the text of the permit, the aforementioned channel reach is culverted and backfilled. Please revise Plate 8-5B and all other maps to accurately represent the culverted reach of stream channel.

The area disturbed by coal mining activities is described as encompassing 16, 20, and 23 acres of land on pages 9-11, 2-9, and 3-10 respectively. Again, assessment of surface disturbance must be accurate and consistent through the PAP. Please make necessary changes.

R614-301-222 Soil Survey

The applicant must depict on Plate 8-1 the soil profile pit locations (SCS Order I Survey) and the soil sample site locations sampled by Mr. Kim Mangum and myself on June 17, 1991 and July 11, 1991.

R614-301-233 Topsoil Supplements and Substitutes

The topsoil mass balance table on page 8-30 is preliminary at this time. The applicant's proposal to amend topsoil volume deficiencies by utilizing soil/subsoil and lithic material from the south and north borrow sites is appropriate. However, sufficient data to characterize said material has not been submitted to date. Additionally, if the borrow areas are approved, then these areas must be reclaimed in accordance with R614-301 et. seq. and be included within the disturbed area boundaries.

The applicant has also proposed the use of in-place fill material as substitute topsoil material. However, sufficient data to characterize the fills within TS-1 through TS-8 (Plates 8-5A and 8-5B) has not been submitted to date. Suitability of the Scale House pad fill cannot be determined or inferred by "backyard" vegetation success. Therefore, the soils within area TS-2 must be characterized.

The downcast material along the Hiawatha Portal Access Road has not been approved as substitute topsoil, which is contrary to the applicant's statements on page 8-29 and to what is inferred throughout the PAP. Please make necessary text changes.

R614-301-242 Soil Redistribution

On page 3-72, Step H, the applicant states ". . . topsoil (will be) spread after spoil (is) ripped . . ." however, no mention of salvaging substitute topsoil from the spoil banks prior to spoil grading is made. Essentially, the material which ends up at the surface will be an adhock mixture of material from various portions of the spoil bank profile. In order to demonstrate the suitability of the surface material after regrading, the applicant must implement a soil/spoil sampling plan to confirm that the top four feet of soil/spoil material is suitable plant growth medium. This may be accomplished in association with the nutrient and soil amendment sampling plan.

The applicant excludes (Table 8.7-1, page 8-2) the Ball Park and main topsoil stockpile areas from areas requiring the redistribution of topsoil. Please make necessary text changes.

R614-301-243 Soil Nutrients and Amendments

The applicant must specify the nutrient and soil amendment sample methodologies to include: sample frequency, sample depths, laboratory methodologies, and constituent analyzed.

R614-301-513.300 Underground Development Waste

The applicant states on page 3-6 that "Co-Op disposes underground development waste in abandoned areas underground, in line with R614-301-513.300 and MSHA regulations." However, in accordance with this section, the operator must submit a plan to be approved by MSHA and the Division which includes, but is not limited to, the following: a description of design, operation and maintenance of the disposal facility; a description of the source and quality of waste to be stowed; area to be backfilled; percent of the mine void to be filled; method of constructing underground retaining walls; and meet the requirements of R614-301-746.400 et. seq., R614-301-536.700 et. seq., R614-301-536.200 et. seq. Please submit plans for disposing underground development waste underground.

R614-301-528 Handling and Disposal of Coal, Overburden, Excess Spoil and Coal Mine Waste

Appendix 3E-2 refers to storing underground development waste on the surface. The applicant has not obtained approval from the Division to temporarily or

permanently dispose of said waste on the surface. Therefore, the applicant must either obtain approval from the Division for surface disposal or store waste exclusively underground and fulfill the requirements of R614-301-513.300 et. seq.

R614-301-353 Revegetation

As depicted in Plate 8-5A-D incidental areas surrounding the Ball Park Topsoil Stockpile, the Machine Shop, the Coal Storage Area, the Upper Storage Yard, below the Lamphouse and below the Hiawatha Access Road, etc. will not be reclaimed. The PAP and appropriate plates must be revised to indicate that all stippled areas (i.e., "non-reclamation areas within the disturbed area") will be reclaimed to meet the requirements of R614-300.

R614-301-731.300 Acid- and Toxic-Forming Materials

The applicant must include a description of the sampling plan within appendix 3K-2 for determining the acid- and/or toxic-forming potential of the sediment pond waste material. The plan should include sample frequency and timing, sampling methodologies, laboratory methodologies, and constituents analyzed.

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